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ALEXANDRIA UNIV (EGYPT) DEPT OF MICROBIOLOGY  
ANNUAL REPORT JANUARY - DECEMBER 1977, (U)  
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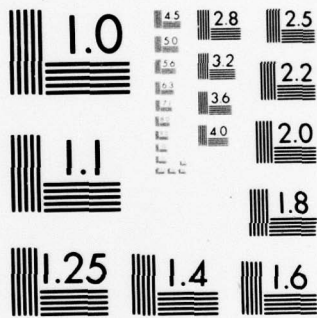
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MICROCOPY RESOLUTION TEST CHART  
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University of Alexandria  
FACULTY OF MEDICINE

Department of Microbiology  
Study of the Epidemiology and Microbiology  
of Enteric in Alexandria

Principal Investigator

107 AIDA LACKANY

Professor of Microbiology



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To : Mr. J.K. Popham  
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Dec 77

From : Dr. A. Lackany,  
Principal Investigator  
Project NR 136-930  
No. N00014-73-C-0011

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Subject: Annual Report (Jan - Dec 1977)

January - December 1977

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Field Operation:

(1) Surveillance activities as regards enteric fevers continued for its fifth year in a very satisfactory manner. The procedure followed was essentially the same as in the previous years namely the systematic collection, consolidation and evaluation of morbidity and other relevant data about the disease in order to achieve continued watchfulness over the distribution and trend of incidence. The obtained information have been conveyed to the responsible health authorities. They were very much appreciated by many other authorities engaged in other national plans and activities mainly because they are nearly the only reliable source of information on the distribution of an important diarrheal disease.

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(2) In addition to the routine bacteriological examination, typing, antibiotic sensitivity by the disc diffusion method on Müller Hinton Agar was done for all isolated salmonella strains. Detection of bacteriocine production was investigated by the contact method using K12 as the indicator strain. The type of colicine was tested on the basis of immunity of standard colicogenic cultures to the lethal effects of their respective colicines and of the resistance of known mutants of K12 to the action of specific colicines.

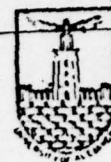
(3) A large scale controlled clinical trial of an oral vaccine was conducted on nearly 31,000 primary school children (6-7 years old) using a Ty21 vaccine provided by Dr. R. Germanier of the Swiss Serum Institute and in collaboration with Pasteur Institute (Paris). Vaccination was carried out during the first two weeks of March 1978 and the follow up activities will continue for a minimum of two years.

(4) A scientific meeting on diarrheal diseases for the Eastern Mediterranean Region has been arranged in collaboration with the WHO and the International Epidemiological Association. It is due to take place during the period 27-31 May. It will be attended by nearly 30 of the top National Officials and by many from the neighbouring countries. Some of the internationally known scientists such as Dr. J. Gangarosa, Dr. A. Langmuir and Dr. Watanabe will attend this meeting which is both financially and scientifically sponsored by the project.

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### Results:

(1) The study of 2385 cases suspected of being enterica and admitted to the Alexandria Communicable Diseases Hospital during 1977 revealed 1608 laboratory confirmed cases. This number is lower than the previous year and is an indication of the continued pattern of decrease which is observed since 1974. The corresponding figure for 1976 was 2260 laboratory confirmed cases. This pattern of decrease may be partly artificial as it is evident to be due to a decrease in the number of hospital admissions which is in turn influenced by some other factors such as the number of beds available for cases of suspected enterica.

(2) The personal characteristics of the cases, their geographic distribution and seasonality was not much different from that in the previous years.

- a) The attack rate was higher among males than among females.
- b) It was found to increase by increase in age to a maximum in the age group 15-24 years.
- c) The distribution by time shows endemicity with an increase in the number of cases during the months starting from May reaching maximum in October.
- d) The pattern of higher rates at areas with low sanitary standards was also observed last year.

(3) The distribution of cases according to the type of causative agent showed the following:

- a) 1136 cases (69.8%) *S. typhi*.  
491 cases (30.2%) *S. paratyphi*.

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- b) All strains of *S. typhi* and *paratyphi* were found to be sensitive to chloramphenicol and to ampicillin. Strains of *S. Wien* and *S. typhimurium* isolated from some of suspected cases were found to be resistant to several antibiotics. The resistance was transferred from some of these strains to K12.
- c) A few of the *S. typhi* strains and the strains of *S. Wien* were found to be colicine producing and most of the colicines identified were of the Ib type.

(4) The field operation of the oral vaccination using the vaccine strain mentioned showed a very low rate of adverse reactions mainly as nausea and vomiting a few hours following vaccination. No severe reactions were observed.

#### Future Plan:

According to the project contract, the study is to end this year. However, it is hoped that the study could be continued for another two years in order to complete the follow up study for the evaluation of the immunization program and to study any changes in the pattern of enteric fever in Alexandria as a result of the various activities in the field of environmental sanitation which are being implemented in Alexandria. This study is nearly the sole comprehensive surveillance activity which could be used for epidemiological evaluation of control projects.

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The Epidemiology and Microbiology  
Enterics in Alexandria

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### Academic Activities:

The study sponsored several Master and Doctorate studies in related topics. Those which have been completed and accepted by the University of Alexandria are:-

- / A comparative study on the different methods of laboratory diagnosis of enteric fevers.
- / Field study of the Musca Domestica and American Cockroach (Periplaneta Americana) as carriers for some pathogenic microorganisms in Alexandria.
- / Study of serum immunoglobulins in salmonella infection accompanied by schistosomiasis.